National Pollutant Discharge Elimination System Manual

Storm Water Management Guidelines for Construction and Industrial Activities

Revision 1
December 2003



New Mexico Department of Transportation
Drainage Section
PO Box 1149
Santa Fe, New Mexico 87504-1149



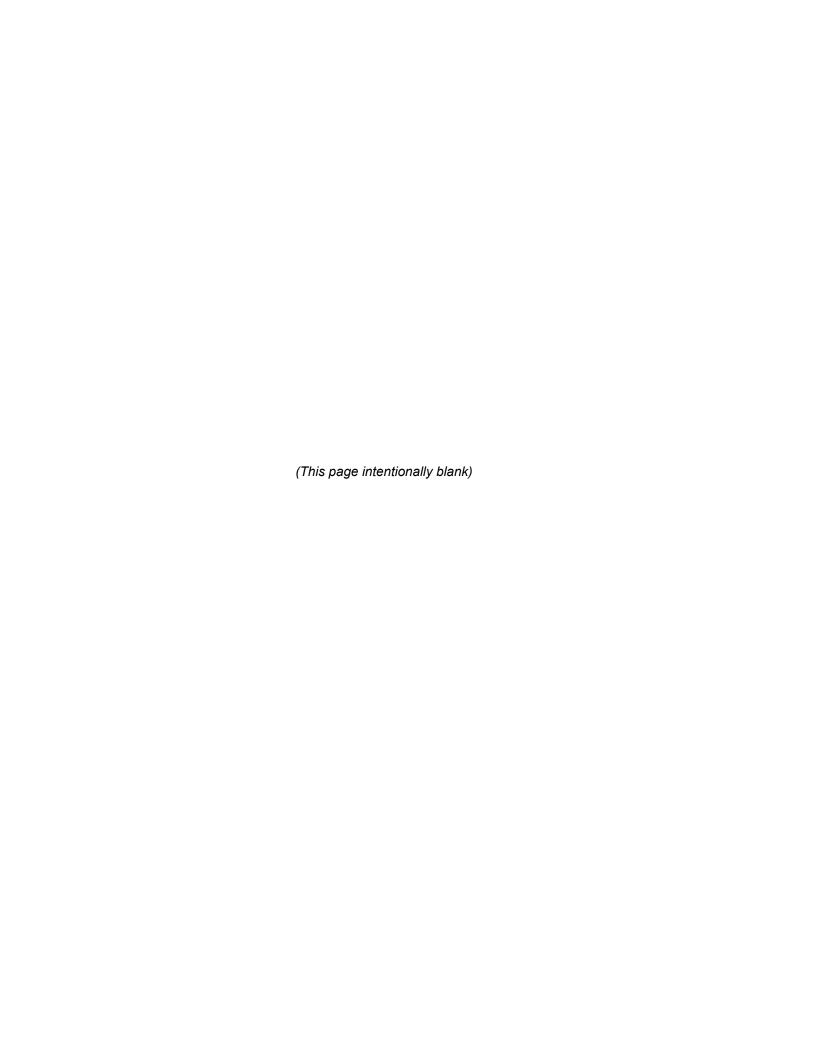
City of Albuquerque
Department of Municipal Development
PO Box 1293
Albuquerque, New Mexico 87103



Albuquerque Metropolitan Arroyo Flood Control Authority 2600 Prospect Avenue, NE Albuquerque, New Mexico 87107



Southern Sandoval County Arroyo Flood Control Authority 1041 Commercial Drive, SE Rio Rancho, New Mexico 87124



FOREWORD

This December 2003 edition of the *Storm Water Management Guidelines for Construction and Industrial Activities* is to be used as guidance for construction projects and industrial sites. The project designer should attempt to meet all criteria presented in this manual. However, this manual should not be considered a standard that must be met regardless of impacts. Designers must exercise good judgment on individual projects and frequently must be innovative in their approach to storm water management. The manual is designed to be used in all parts of the state of New Mexico, both in urban and rural areas. Inspectors should pay particular attention to the portions of this manual regarding mandatory inspection reports. Contractors will also need to remain aware of their responsibilities regarding storm water management as outlined herein.

This manual is the result of a joint contract between the New Mexico Department of Transportation, the City of Albuquerque, the Albuquerque Metropolitan Arroyo Flood Control Authority, and the Southern Sandoval County Arroyo Flood Control Authority. The four entities defined their joint interests and programmatic requirements to focus the work herein. Significant technical input came from all four, and the project costs were shared. This manual is endorsed by the four entities, and its use is encouraged for any entity that has the potential to generate storm water runoff through either construction or industrial activities with exposure to storm water.

This revision to the NPDES permitting manual was necessitated by the revisions to the General Permit dated July 2003. These revisions changed numerous items in the original manual. Although this manual is intended to provide guidance in meeting the current Phase II regulations, updates may be required periodically due to changes in regulatory prerogatives of state and federal agencies and other affected parties. In addition, it is vital that the users of this manual inform us of any inconsistencies, errors, or omissions so that this publication may remain current and accurate. Should anyone discover the need for corrections, please address your concerns to:

New Mexico Department of Transportation (NMDOT)
Drainage Section
PO Box 1149
Santa Fe, New Mexico 87504-1149



Rhonda G. Faught, Cabinet Secretary New Mexico Department of Transportation



Ed Adams, Director Department of Municipal Development, City of Albuquerque



John Kelly, Executive Engineer Albuquerque Metropolitan Arroyo Flood Control Authority



David Stoliker, Executive Director Southern Sandoval County Arroyo Flood Control Authority

01C11R.DOC İ

ACKNOWLEDGMENTS

This revision project, funded by the City of Albuquerque, the Albuquerque Metropolitan Arroyo Flood Control Authority, the New Mexico Department of Transportation, and the Southern Sandoval County Arroyo Flood Control Authority, was performed with the assistance of Eberline Services, Inc. The parties met on several occasions to develop this document such that it was useful to and beneficial for all parties involved. The so-called Phase II regulatory requirements are incorporated in the document with this revision. Other requirements of the July 2003 revised General Permit are also incorporated.

01C11R.DOC İİ

TABLE OF CONTENTS

Sec	tion		Page						
		RD LEDGMENTS							
LIST OF FIGURESLIST OF TABLESLIST OF APPENDICES									
								MS RY OF TERMS	
INT	RODU	ICTION	1						
I.	CON	ISTRUCTION ACTIVITIES	3						
	I.A.	INTRODUCTION	3						
	I.B.	REGULATORY SUMMARY	3						
		I.B.1. NPDES Regulations							
		I.B.2. NPDES General Permit							
		I.B.3. NPDES Permitting Process	8						
	I.C.	NOTICE OF INTENT	10						
		I.C.1. Description							
		I.C.2. Preparing an NOI							
		I.C.3. Where to Submit							
		I.C.4. Signatory Requirements							
		I.C.5. Approval Process							
		I.C.7. Violations							
	I.D.	SWPPP DEVELOPMENT	20						
		I.D.1. Description	20						
		I.D.2. Developing and Implementing an SWPPP for							
		Construction Activities							
		I.D.3. Runoff Volume and Flow Rate							
	. –								
	I.E.	BEST MANAGEMENT PRACTICES FOR CONSTRUCTION							
II.	IND	JSTRIAL ACTIVITIES	39						
	II.A.	INTRODUCTION	39						
	II.B.	REGULATORY SUMMARY	39						
		II.B.1. NPDES Regulations							
		II.B.2. NPDES Multi-Sector General Permit							
		II.B.3. NPDES Permitting Process	44						
	II.C.	NOTICE OF INTENT							
		II.C.1. Description							
		II.C.2. Preparing an NOI							
		II.C.3. Signatory Requirements							
		II.C.4. Approval ProcessII.C.5. Violations							

iii

SWPPP PREPARATION	51
II.D.1. Description	51
II.D.2. Development of the SWPPP	51
II.D.3. Preparing an SWPPP	51
II.D.4. Signatory Requirements	55
II.D.5. Approval Process	55
II.D.6. No Exposure Certification	55
II.D.7. Other Notifications	55
BEST MANAGEMENT PRACTICES FOR INDUSTRIAL ACTIVITIES	58
NOTICE OF TERMINATION	58
II.F.2. Preparing an NOT	58
II.F.3. Signatory Requirements	
	II.D.1. Description. II.D.2. Development of the SWPPP II.D.3. Preparing an SWPPP II.D.4. Signatory Requirements II.D.5. Approval Process II.D.6. No Exposure Certification II.D.7. Other Notifications BEST MANAGEMENT PRACTICES FOR INDUSTRIAL ACTIVITIES NOTICE OF TERMINATION II.F.1. Description. II.F.2. Preparing an NOT

01C11R.DOC İV

LIST OF FIGURES

Figu	Figure		
I-1	NPDES Construction Project Flowchart	9	
I-2	Sample of a Completed EPA Notice of Intent (NOI) Form for Construction Activities	11	
I-3	Isoerodent Map of New Mexico	16	
I-4	Erosivity Index Zone Map of New Mexico	17	
I-5	Sample of a Completed EPA Permit Information Form for Construction Activities	22	
I-6	Outline for Developing and Implementing an SWPPP for Construction Activities	23	
I-7	Sample of a Completed NMDOT SWPPP Inspection and Maintenance Report	29	
I-8	Sample of a Completed EPA NDPES Construction Inspection Form	33	
I-9	Sample of a Completed EPA Notice of Termination (NOT) Form for Construction Activities	37	
I-10	Sample of a Completed Transfer of Storm Water Management Authority Form	38-A	
I-11	Sample of a Completed SWPPP Information Sheet	38-F	
I-12	Sample of Completed Calculations Spreadsheet	38-H	
II-1	NPDES-Specific Industrial Project Flowchart	45	
II-2	Multi-Sector Permitting and Operation Sequence for Industrial Activities	47	
II-3	Sample of a Completed EPA Notice of Intent (NOI) Form for Industrial Activities	49	
II-4	Sample of a Completed EPA Permit Information Form for Industrial Activities	52	
II-5	Outline for Developing and Implementing an SWPPP for Industrial Sites	54	
II-6	Sample of a Completed EPA No Exposure Certification (NEC) Form for Industrial Activities	56	
II-7	Sample of a Completed EPA Notice of Termination (NOT) Form for Industri	ial 59	

01C11R.DOC V

LIST OF TABLES

lable		Page	
I-1	Erosivity Index for New Mexico Zones	18	
I-2	Direct Runoff in Inches	38-C	
I-3	Typical "C" Values for Urban Areas (Rational Method)	38-D	
I-4	Typical "C" Values for Rural Areas (Rational Method)	38-D	
II-1	Summary of Federal Permit Requirements for Industrial Activities under the NPDES Storm Water Program	46	

01C11R.DOC Vİ

LIST OF APPENDICES

Appendix

A Best Management Practices (BMPs)

A1 Stabilization Practices

- Seeding Temporary/Vegetation
- Mulching
- Surface Roughening
- Erosion Control Mat
- Buffer Strip

A2 Structural Controls

- Silt Fence
- Straw Bale
- Diversion Channel Dike and Swale
- Slope Drain
- Drop Inlet Protection
- Culvert Protection
- Check Dam
- Sediment Trap Berm/Excavated
- Sediment Basin
- Triangular Sediment Filter Dike
- Compost Filter Berm
- Straw Wattle

A3 Housekeeping Practices

- Sanitary Facilities
- Equipment Maintenance
- Protected Chemical and Materials Storage Areas
- Spill Prevention Plan
- Protection of Trees
- Concrete Waste Management
- Solid Waste Management
- Hazardous Waste Management
- Dust Control
- Stabilized Construction Entrance/Exit

B Forms

B1 Forms for Construction Activities

- Notice of Intent (NOI) Form and Instructions
- EPA Permit Information Form
- SWPPP Certification Form, Checklist, Outline, and Template
- Alternate SWPPP Forms
- SWPPP Information Sheet
- EPA NPDES Construction Inspection Form
- NMDOT SWPPP Inspection and Maintenance Report
- Notice of Termination (NOT) Form and Instructions
- Transfer of Storm Water Management Authority Form
- NPDES New Mexico Qualification Form

01C11R.DOC VII

- B2 Forms for Industrial Activities
 - Notice of Intent (NOI) Form and Instructions
 - Suggested Table of Contents for an Industrial SWPPP
 - No Exposure Certification (NEC) Form and Instructions
 - EPA Permit Information Form
 - Notice of Termination (NOT) Form and Instructions
- C Federal Register Regulations

Note: Appendices C1–C4 have been replaced with Appendix E

- C5 Threatened and Endangered Species, Historic Places, and Total Maximum Daily Load Issues for Industrial Activities (Federal Register Volume 65, No. 210, October 30, 2000, Notices, pp. 64753-64757)
- Multi-Sector General Permit Coverages (Federal Register Volume 65,
 No. 210, October 30, 2000, Notices)
 - SIC Codes Eligible for Permit Coverage under the MSGP (pp. 64804-64806)
 - Monitoring Concentration Limits in SIC-Code Categories and Specific SIC-Code Requirements for Permitted Industrial Activities (pp. 64820-64852)
 - Spill Reporting (p. 64760)
- C7 Conditional Exclusion for No Exposure (Federal Register Volume 65, No. 210, October 30, 2000, Notices, p. 64759)
- C8 Penalties for Violations of Permit Conditions for Industrial Activities (Federal Register Volume 65, No. 210, October 30, 2000, Notices, p. 64853)
- D Guidance on Seed Selection and Seeding of Temporary Vegetation on Disturbed Areas
- E NPDES General Permit for Storm Water Discharges From Construction Activities

01C11R.DOC VIII

ACRONYMS

AMAFCA Albuquerque Metropolitan Arroyo Flood Control Authority

BMP Best Management Practice
CFR Code of Federal Regulations
CGP Construction General Permit

CN curve number

COA City of Albuquerque CWA Clean Water Act

DMR Discharge Monitoring Report

EPA U.S. Environmental Protection Agency
MS4 Municipal Separate Storm Sewer System

MSGP Multi-Sector General Permit
NEC No Exposure Certification

NMDOT New Mexico Department of Transportation

NMED New Mexico Environment Department

NOAA National Oceanic and Atmospheric Administration

NOI Notice of Intent

NOT Notice of Termination

NPDES National Pollutant Discharge Elimination System

NRC National Response Center

NRCS Natural Resources Conservation Service

OSHA Occupational Safety and Health Administration

RQ reportable quantity
SCP Sediment Control Plan

SSCAFCA Southern Sandoval County Arroyo Flood Control Authority

SIC Standard Industrial Classification

SWPPP Storm Water Pollution Prevention Plan
T&E Threatened and Endangered Species

TESCP Temporary Erosion and Sediment Control Plan

(equivalent to SCP)

TMDL total maximum daily load
UNM University of New Mexico
USGS U.S. Geological Survey

01C11R.DOC İX

GLOSSARY OF TERMS

Throughout the manual, the reader will find references to specific terms. To understand the process and goal of the storm water program, these specific terms are listed below with definitions as determined by the U.S. Environmental Protection Agency (EPA) in the draft manual *Storm Water Pollution Prevention for Construction Activities*.

Best Management Practices (BMPs) — Management measures or practices used to protect air, soil, or water quality or reduce the potential for pollution associated with storm water runoff. BMPs may be a structural device or non-structural practice, including processes, land use alternatives, activities, or physical structures.

Multi-Sector General Permit (MSGP) — An umbrella permit given to a state under which certain Standard Industrial Classification (SIC) industries may be granted a permit to discharge storm water by notifying EPA of their intent to do so, in compliance with the regulatory provisions of the General Permit.

Municipal Separate Storm Sewer System (MS4) — A conveyance or system of conveyances (including roads with drainage systems and municipal streets) that is "owned or operated by a state, city, town, borough, county, parish, district, association, or other public body. . . designed or used for collecting or conveying storm water. . ."

National Pollutant Discharge Elimination System (NPDES) — The national program for administering and regulating Sections 307, 318, 402, and 405 of the Clean Water Act. A storm water permit issued under NPDES is authorization by the EPA to discharge storm water under certain specified conditions. The NPDES General Permit provides those specified conditions for construction.

Non-Exposure Certification (NEC) — A permit exemption for certain outfalls or pollutant constituents, granted to facilities that can demonstrate no discharge or absence of particular constituents through monitoring.

Notice of Intent (NOI) — A formal notice to the EPA that, under the NPDES General Permit, a storm water discharge will take place. The NOI provides information on the permittee, location of discharge, and the type of discharge. It also certifies that the permittee will comply with certain specified conditions as outlined in the General Permit.

Notice of Termination (NOT) — A formal notice to the EPA that a specific site permitted under the NPDES Program is no longer discharging storm water.

Storm Water Pollution Prevention Plan (SWPPP) — A plan consisting of site maps, construction/contractor activities that could cause pollutants in storm water, and a description of measures or practices to control those pollutants.

Sediment Control Plan (SCP) — The formal compilation of required erosion- and sediment-control activities prepared for a specific site and project.

Temporary Erosion and Sediment Control Plan (TESCP) — Equivalent to SCP (i.e., the formal compilation of required erosion- and sediment-control activities prepared for a specific site and project).

01C11R.DOC X

INTRODUCTION

PURPOSE OF THIS MANUAL

This manual:

- a. Is designed to provide guidance in the National Pollutant Discharge Elimination System (NPDES) application and permitting process consistent with the July 2003 General Permit revisions. The NPDES Storm Water Permit Program is a federal program developed under the Section 402 of the Clean Water Act (CWA). In this effort the manual will:
 - Assist regulated entities in the permitting and notification process
 - Assist regulated entities in understanding the importance of storm water management
 - Provide the basics of planning and design for storm water management
 - Assist regulated entities' coverage under the General Permit instead of under a sitespecific permit
 - Assist Municipal Separate Storm Sewer Systems (MS4s) with their programmatic requirements
- b. Was developed for the New Mexico Department of Transportation (NMDOT), the Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA), the City of Albuquerque (COA), the Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA), and the University of New Mexico (UNM) to meet the requirements of the local ordinances and regulations, as well as the NPDES program. The manual is designed for general use statewide.
- c. Provides information regarding the development of Storm Water Pollution Prevention Plans (SWPPPs), as well as application of best management practices (BMPs) for construction and industrial sites. This manual describes many BMPs in detail. The user must exercise careful consideration when selecting or modifying BMPs for a specific site. Many of the suggested BMPs are general in nature, and their applicability should be evaluated for each specific project site. The suggested BMPs should be used only as a guide, and should not substitute for good engineering judgment.
- d. Is meant to provide basic guidance on complying with the NPDES requirements under a General Permit. Users are encouraged to check the U.S. Environmental Protection Agency (EPA) website (<u>www.epa.gov/npdes/stormwater/cgp</u>) for updated versions of requirements and forms. Users with complex sites, issues, or questions should consult with the regulatory agencies or an expert in NPDES requirements.
- e. Provides guidance on coverage under a General Permit and does not address obtaining a site-specific NPDES Permit where required.

01C11R.DOC 1